

TA-N77ES

SERVICE MANUAL

*US Model
Canadian Model
AEP Model
UK Model
E Model*



SPECIFICATIONS

Audio power specifications

POWER OUTPUT AND TOTAL HARMONIC DISTORSION:

With 4 ohm loads, both channels driven, from 20 – 20,000 Hz; rated 270 watts per channel minimum RMS power, with no more than 0.006% total harmonic distortion from 250 milliwatts to rated output. With 8 ohm loads, both channels driven, from 20 – 20,000 Hz; rated 200 watts per channel minimum RMS power, with no more than 0.004% total harmonic distortion from 250 milliwatts to rated output.

Other specifications

Item	Condition	Data
Continuous RMS power output (both channels driven simultaneously)	4 ohms 20 Hz – 20 kHz THD 0.006%	270 W + 270 W
	6 ohms 20 Hz – 20 kHz THD 0.005%	230 W + 230 W
	8 ohms 20 Hz – 20 kHz THD 0.004%	200 W + 200 W

Dynamic power	1 ohm	660 W
	2 ohms	800 W
	4 ohms	520 W
	6 ohms	370 W
	8 ohms	300 W
Power band-width (IHF)	4 ohms, 0.02%	10 Hz – 100 kHz
	8 ohms, THD 0.02%	10 Hz – 100 kHz
Dynamic headroom ('78 IHF)	4 ohms	2.8 dB
	8 ohms	1.8 dB
Total harmonic distortion	4 ohms, at 10 watt output	0.004%
	6 ohms, at 10 watt output	0.003%
	8 ohms, at 10 watt output	0.0018%

— Continued on page 2 —

0 dB = 0.775 V



STEREO POWER AMPLIFIER
SONY®

AUD

TA-N77ES

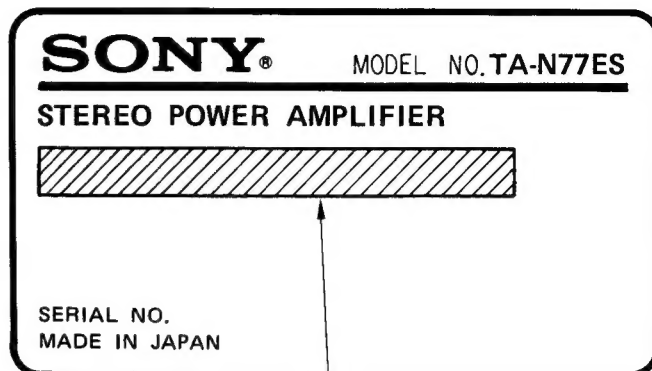
Intermodulation (IM) distortion 60 Hz: 7 kHz = 4:1	4 ohms at rated output	0.006%
	6 ohms at rated output	0.005%
	8 ohms at rated output	0.004%
Damping factor	8 ohms, 1 kHz	100
Slew rate	—	150 V/μsec 300 V/μsec (inside)
Residual noise	network A	less than 35 μV
Frequency response	—	1 Hz – 200 kHz +0 -3 dB
Input sensitivity	—	1 V, 30 kohms
S/N (network) * 78 IHF	FIXED VARIABLE	120 dB (A)

General

System	Super legato linear, purecomplementary SEPP power amplifier, powerful power supply
Power requirements	US, Canadian model: 120 AC, 60 Hz AEP, G-AEP, UK, E model: 120, 220, Or 240 V AC adjustable, 50/60 Hz
Power consumption	US model: 380 W Canadian model: 950 VA UK model: 490 W AEP, G-AEP, E model: 510 W
Dimensions	Approx. 470 x 185 x 440 mm (w/h/d) (18 ⁵ / ₈ x 7 ³ / ₈ x 17 ³ / ₈ inches) including projecting parts and controls
Weight	Approx. 25 kg (55 lb 2 oz), net


MODEL IDENTIFICATION

— Specification Label —



US model: AC: 120 V 60 Hz 380 W
Canadian model: AC: 120 V 60 Hz 950 VA
AEP, G-AEP, E model:
AC: 120/220/240 V ~ 50/60 Hz 510 W
UK model: AC: 120/220/240 V ~ 50/60 Hz 490 W

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!


LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

Features

Super legato linear system

This unit employs super legato linear system which drives low impedance speakers and assures powerful reproduction without low crossover distortion and switching distortion over the wide range.

Spontaneous twin drive power supply circuit

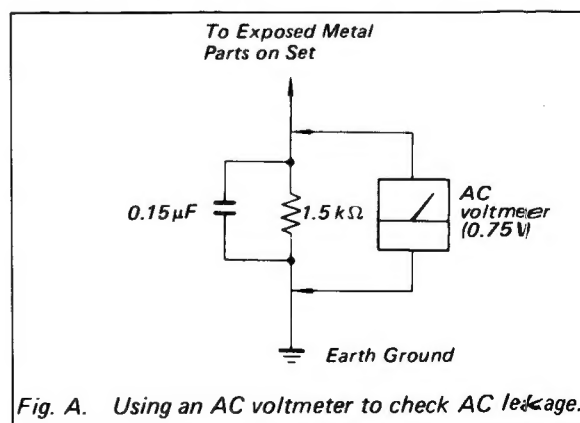
Condensers having large capacity are used for the voltage amplification drive stage of class A and power output stage of class B. Thus, a stable output and high quality sound are obtained, resulting in exclusion of power interferences. The class A stage realizes a stable operation free from interference of the power stage even when an instantaneous or strong output is received.

G chassis

A one-piece, hard chassis, named "Gibraltar", reduces distortion caused by vibrations.

This reduces air vibrations from the floor and speakers and also reduces vibrations caused by the power transformer and power transistors.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)



System connections

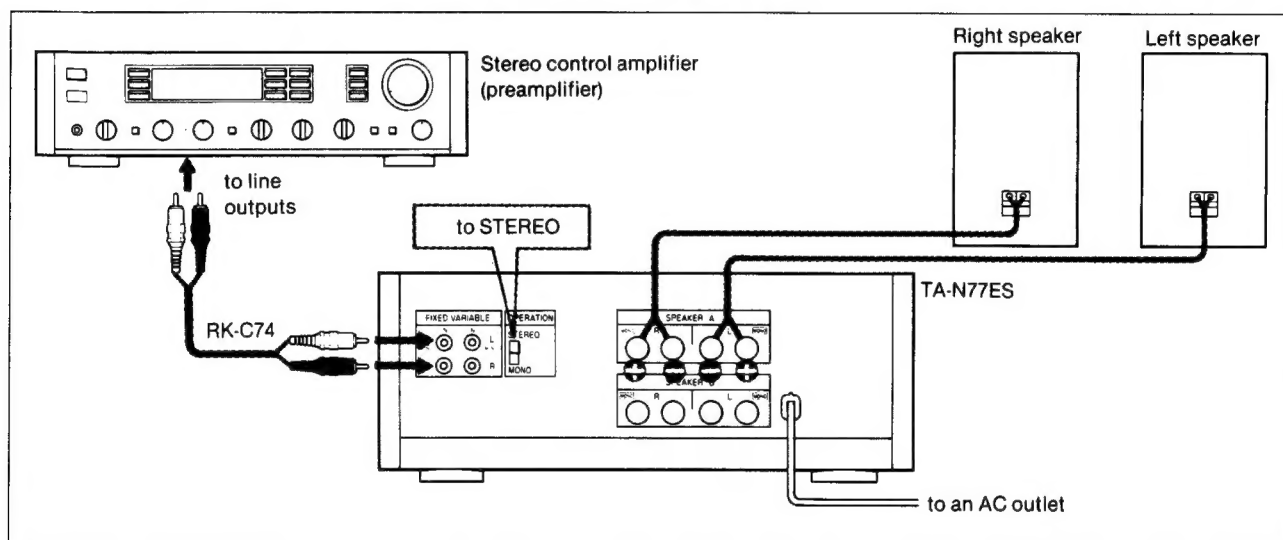
Preamplifier connection

The unit provides two kinds of input jacks, **FIXED** and **VARIABLE**, which can be switched by means of the **INPUT** selector located on the front panel.

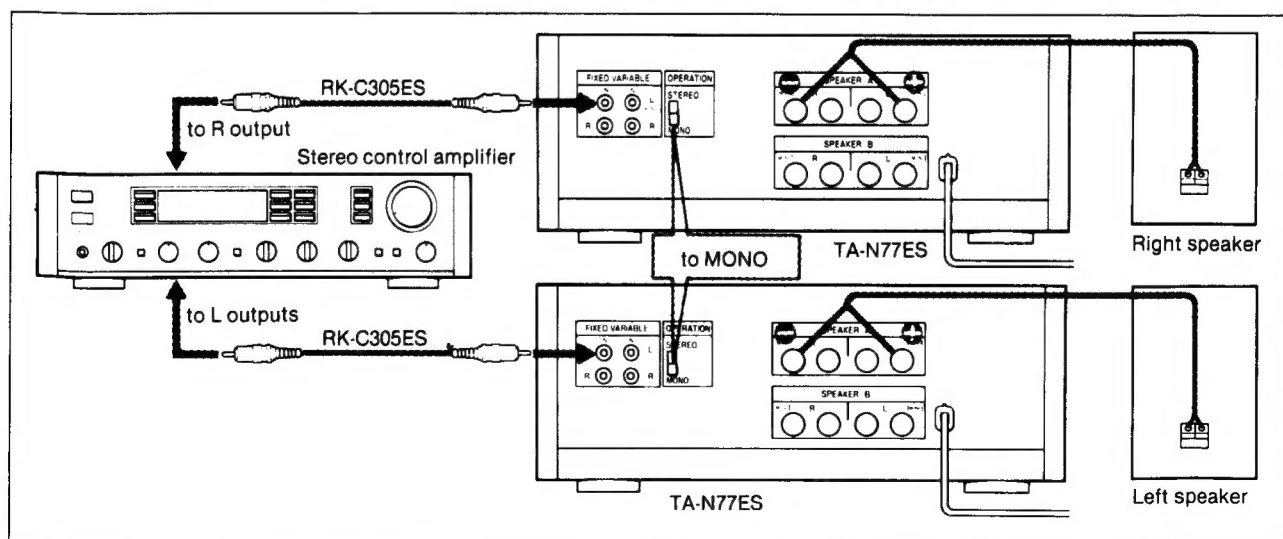
FIXED input jacks: Normally connect a preamplifier to these jacks. When these jacks are used, the sound level is controlled by the attenuator on the connected preamplifier.

VARIABLE input jacks: A CD player, etc., can be directly connected to these jacks to enjoy the digital sound. In this case, the **LEFT** and **RIGHT ATTENUATORS** on the front panel control the sound level.

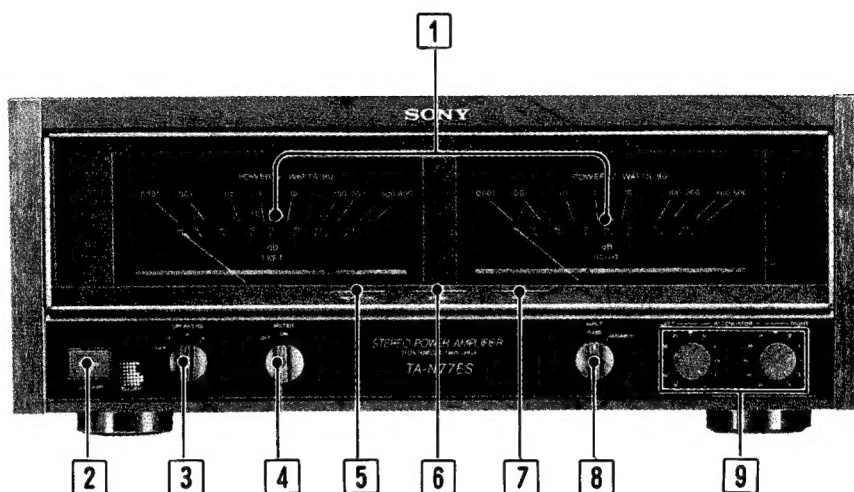
Connection as a stereo power amplifier



Connection as a monaural power amplifier



Function of controls



1 Left and right meters

When a speaker system having a nominal impedance of 4 ohms is used, the needles of the meters oscillate twice as when 8-ohm speakers are used.

2 POWER switch

3 SPEAKERS selector

Selects speaker system A or B, or both.
For headphone monitoring on the connected preamplifier, set to OFF.

4 METER switch

Switches meter deflection on or off.

5 PROTECTION indicator

Lights up for approx. 8 seconds immediately after turning on the unit. This indicates that the built-in muting circuit is activated.

In normal operating conditions, this does not light. If it lights up (speaker sound is not heard) while operating, an abnormality has occurred. In this case, disconnect the AC power cord and check the connected components and speaker systems.

6 STEREO indicator

Lights up when OPERATION is set to STEREO and a stereo program is played.

7 MONO indicator

Lights up when OPERATION is set to MONO and a monaural program is played.

8 INPUT selector

Selects input source connected to the input jacks on the rear panel; FIXED or VARIABLE.

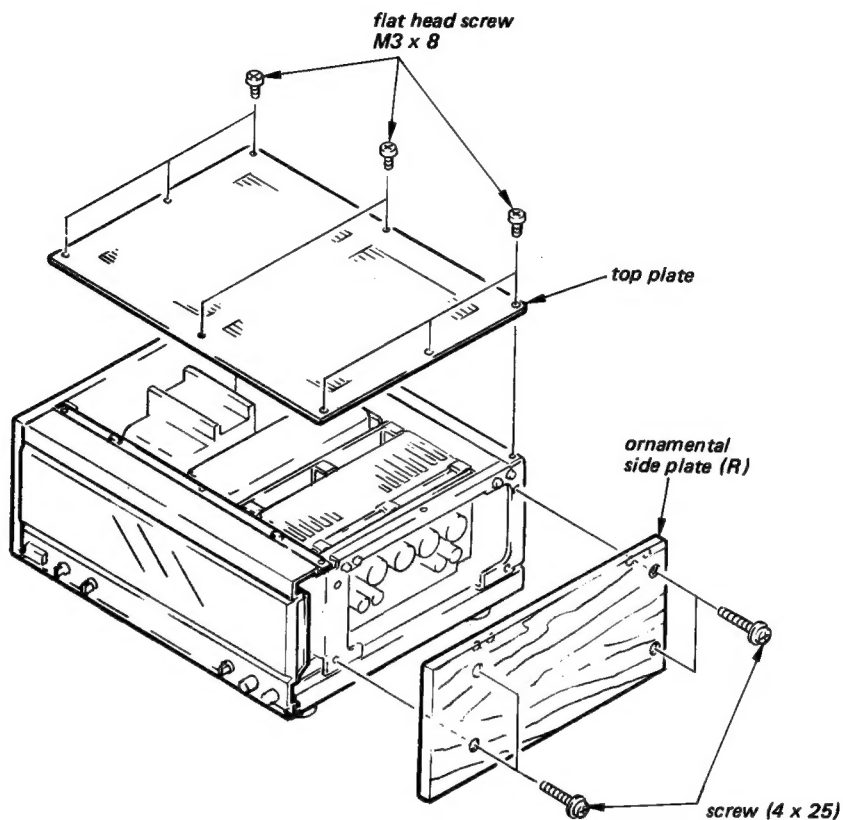
9 ATTENUATORS and indicator

Control input signal sound level from the preamplifier connected to the VARIABLE input jacks. The indicator lights up to indicate that the ATTENUATORS are activated.

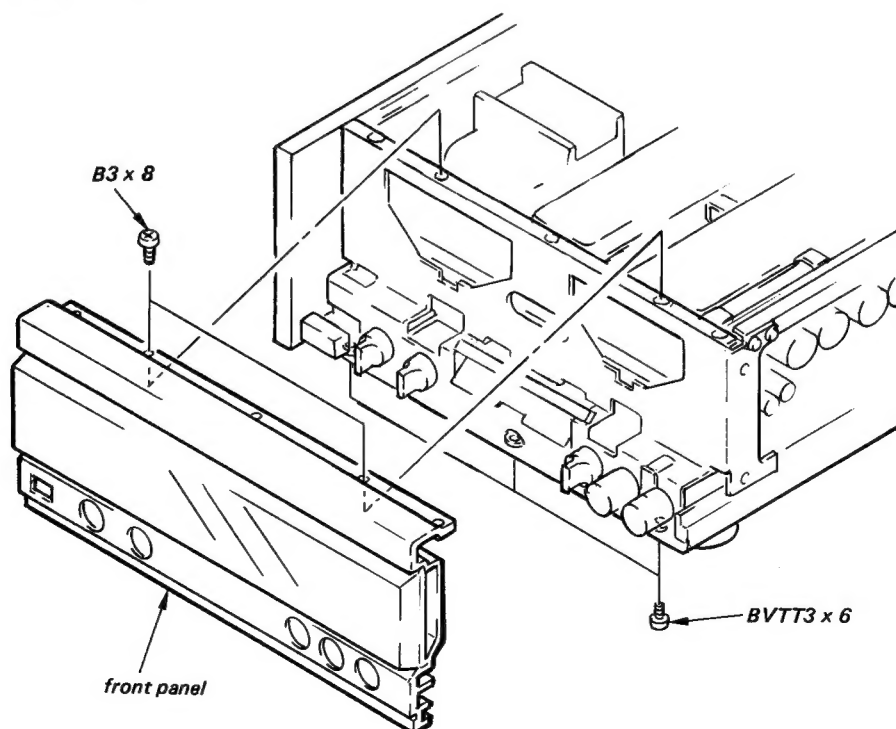
SECTION 1 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

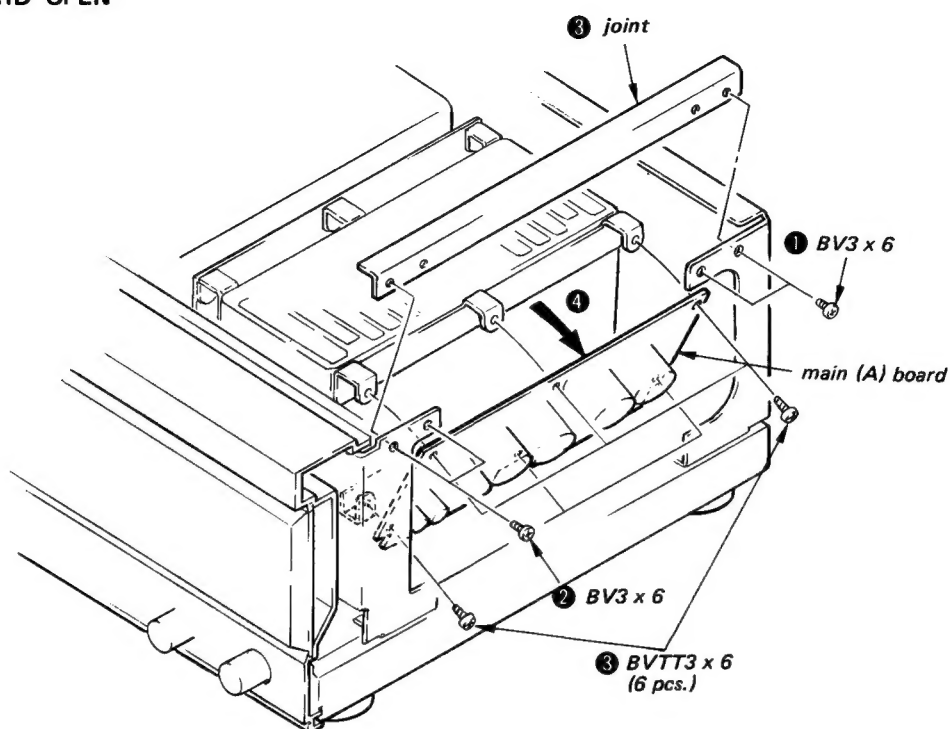
TOP PLATE AND ORNAMENTAL SIDE PLATE (R) REMOVAL



FRONT PANEL REMOVAL

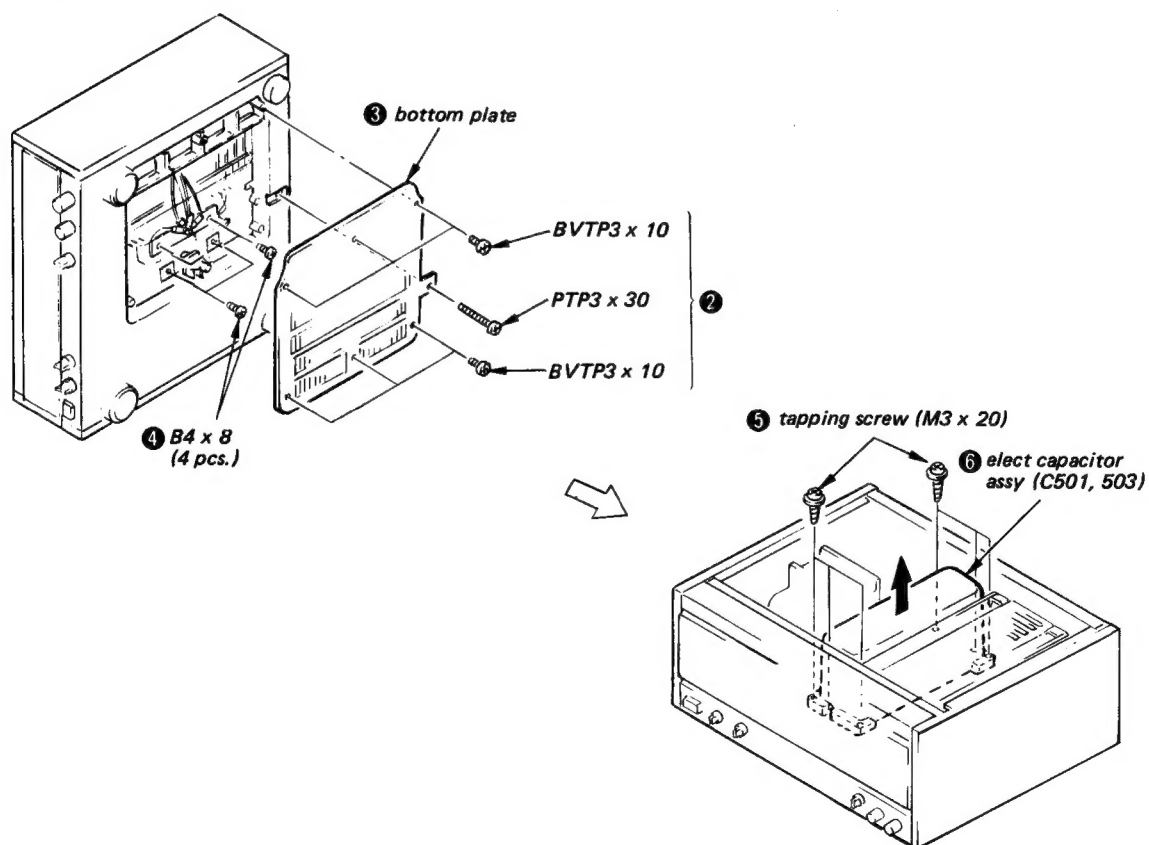


MAIN (A) BOARD OPEN



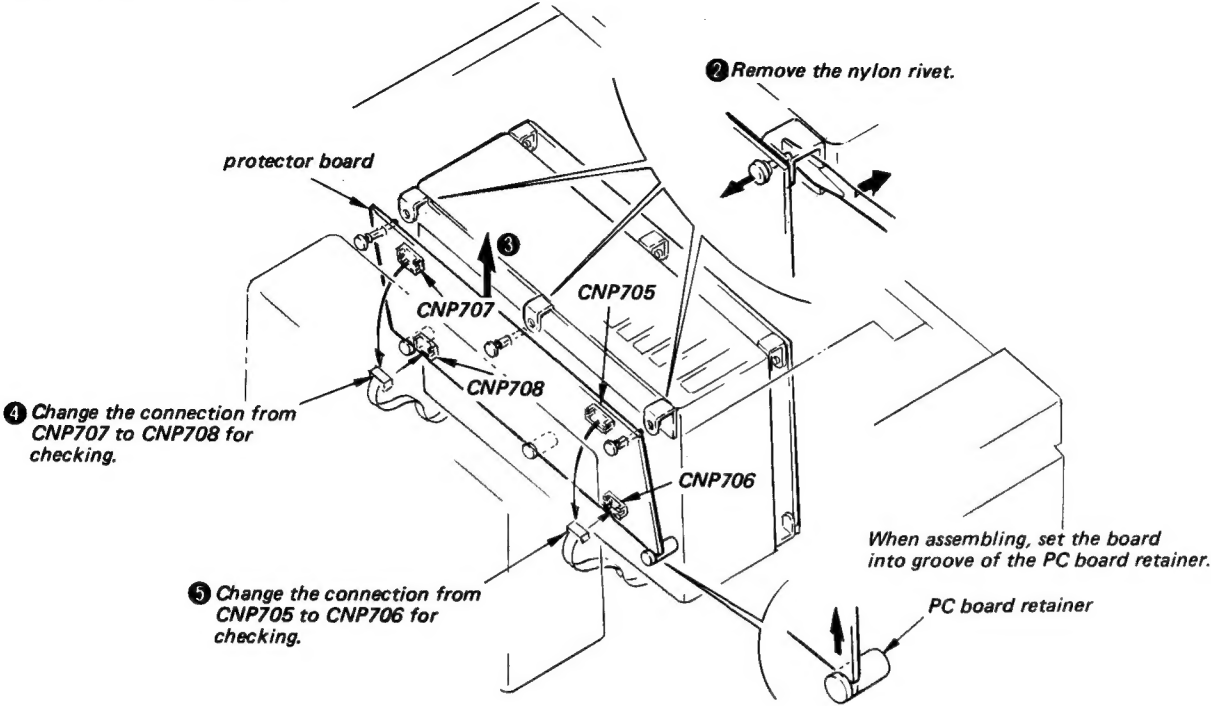
ELECT CAPACITOR ASSY (C501, 503) REMOVAL

① Remove the top plate (See page 6.).

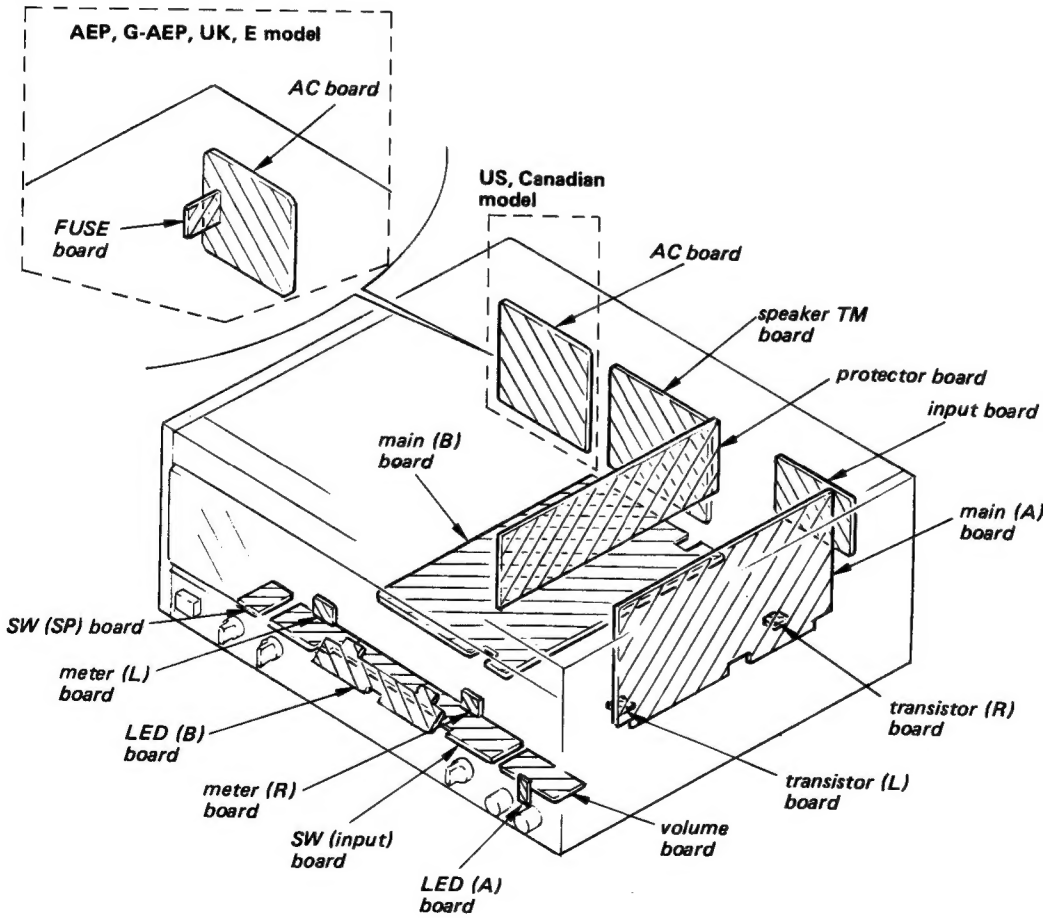


PROTECTOR BOARD REMOVAL

1 Remove the top plate (See page 6.).



CIRCUIT BOARDS LOCATION



SECTION 2

ELECTRICAL ADJUSTMENTS

Note: Adjustment should be performed 5 minutes later, after the power switch is on.

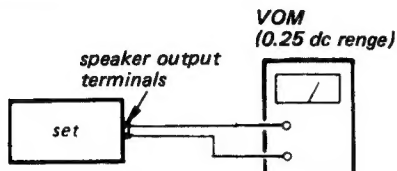
Offset Adjustment

Setting:

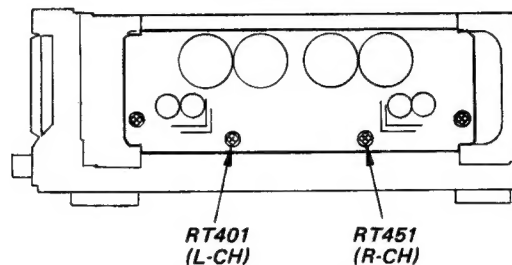
OPERATION switch: STEREO

Input signal: No signal input

Procedure:



Adjustment Location: main (A) board



Adjust RT401 (L-CH) and RT451 (R-CH) for 0 V reading on the VOM.

Bias Current Adjustment

Setting:

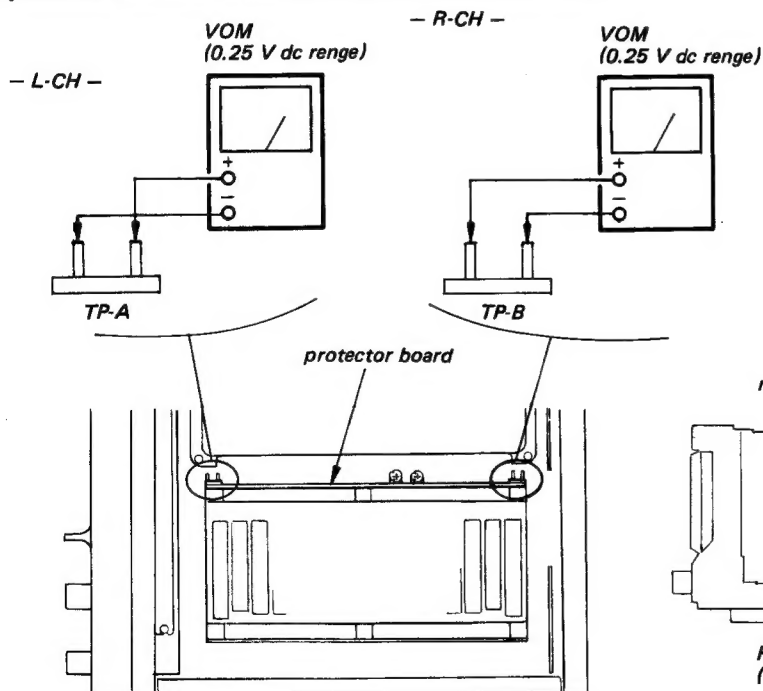
OPERATION switch: STEREO

Input signal: No signal input

Procedure:

Adjust RT302 (L-CH) and RT352 (R-CH) so that VOM readings of TP-A (L-CH), TP-B (R-CH) become 15 mV.

Adjustment Location: main (A) board and protector board



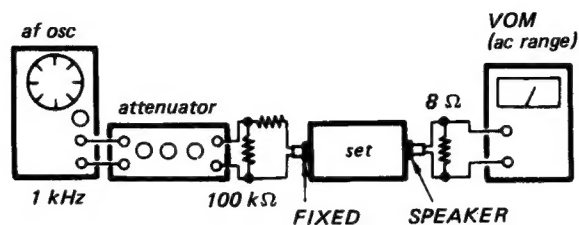
SECTION 3 DIAGRAMS

Meter Adjustment

Setting:

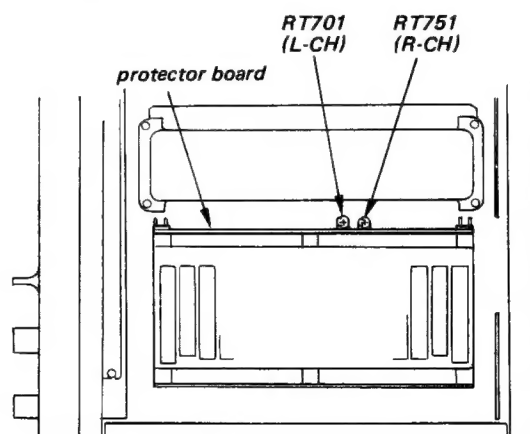
OPERATION switch: STEREO
INPUT switch: FIXED
METER switch: ON

Procedure:



1. Set FIXED input level for 8.9 V reading on the VOM.
2. Adjust RT701 (L-CH) and RT751 (R-CH) so that the POWER/WATTS 8 Ω meter indicates 10 W.

Adjustment Location: protector board



3-1. SEMICONDUCTOR LEAD LAYOUTS

2SA955 	2SC1841-PA 	CTU-22R 	SEL2210S-D
2SA988-F 	2SC3298A 	CTU-22S 	SEL2213C-D SEL2513E
2SA1048-GR 2SC634SP 	2SK244 	CTU-32R 	
2SA1383 2SC3514 2SD1585-L 	2SK246GR2 	CTU-32S 	
2SA1306A 	TA7318P 	SIVB40 	
2SA1360-O 2SC3423 	μPC1237HA 	SV-04 	
2SA1492 2SC3856 	10E2N 1SS132 HZ6C2L HZ11B2L HZ36-2L 	SEL1210W 	

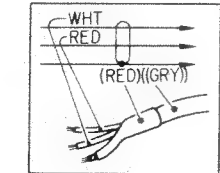
3-2. MOUNTING DIAGRAM

— Conductor Side —

- See page 8 for Circuit Boards Location.
- See page 11 for Semiconductor Lead Layouts.
- See page 20 for notes.

Note:

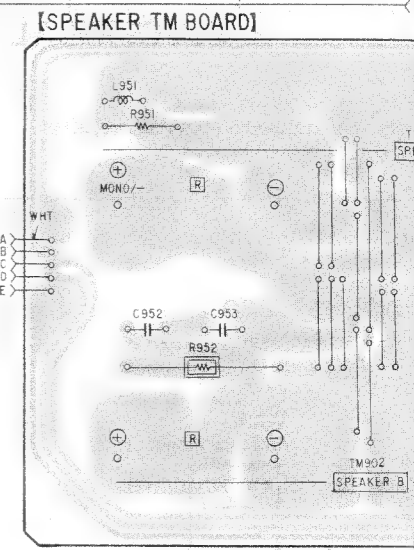
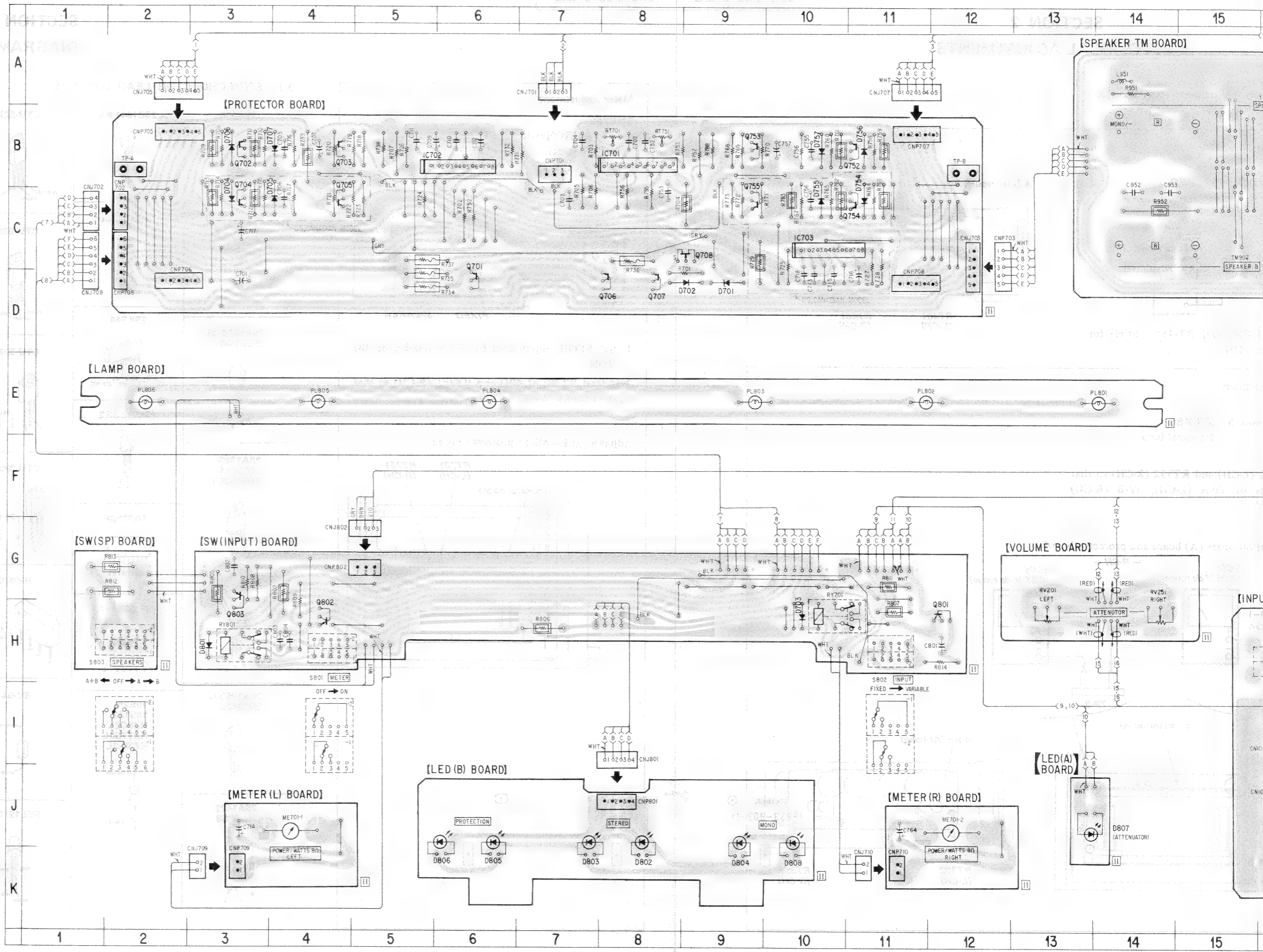
- Color code or sleeving over the end of the jacket.

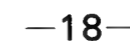


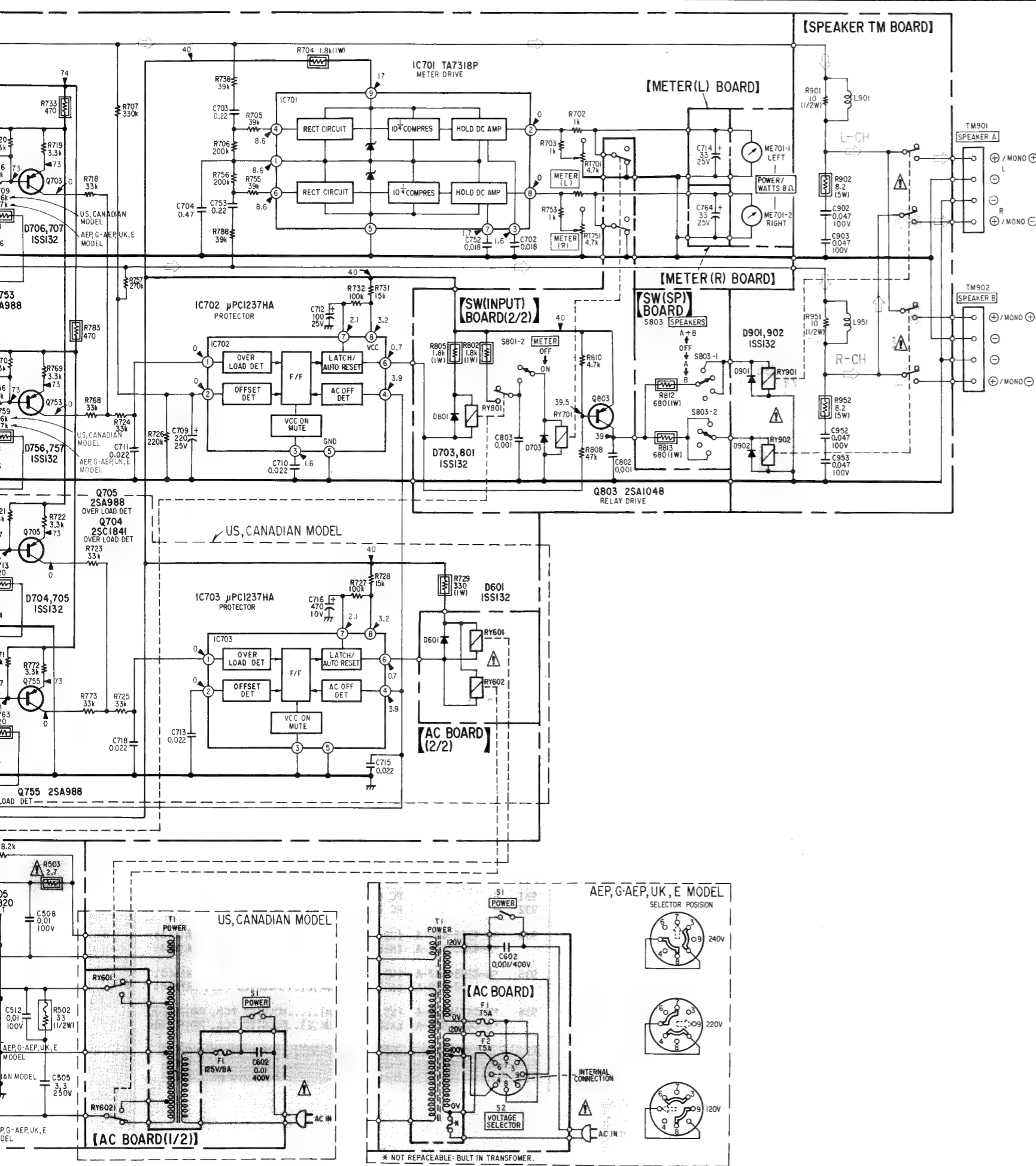
- — : parts extracted from the component side.
- — : parts extracted from the conductor side.

• SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D301	H-24	Q311	G-20
D302	I-24	Q312	H-20
D303	G-21	Q313	G-18
D304	G-21	Q351	H-26
D305	G-22	Q352	H-26
D306	I-19	Q353	H-26
D307	I-19	Q354	H-26
D308	G-20	Q355	G-27
D309	H-21	Q356	H-28
D310	G-20	Q357	I-26
D311	I-19	Q358	H-27
D312	I-19	Q359	H-27
D353	G-27	Q360	H-28
D354	G-27	Q361	G-28
D355	G-26	Q362	H-28
D356	I-29	Q363	G-30
D357	I-29	Q401	I-20
D358	G-28	Q402	I-20
D359	H-27	Q403	A-24
D360	G-28	Q404	A-23
D361	I-29	Q405	A-19
D362	I-29	Q406	A-21
D501	E-25	Q407	A-20
D502	E-22	Q408	A-22
D503	E-28	Q409	A-20
D504	E-28	Q410	A-22
D505	E-21	Q451	I-29
D507	E-21	Q452	I-29
D601	D-31	Q453	A-24
D701	D-9	Q454	A-25
D702	D-9	Q455	A-29
D703	H-10	Q456	A-27
D704	C-3	Q457	A-28
D705	C-4	Q458	A-26
D706	B-3	Q459	A-28
D707	B-4	Q460	A-26
D754	C-11	Q701	D-6
D755	C-10	Q702	B-3
D756	B-11	Q703	B-4
D757	B-10	Q704	C-3
D801	H-3	Q705	C-4
D802	K-8	Q706	D-8
D803	K-7	Q707	D-8
D804	K-9	Q708	C-9
D805	K-6	Q752	B-11
D806	K-6	Q753	B-9
D807	J-14	Q754	C-11
D808	K-10	Q755	C-9
D901	B-17	Q801	H-12
D902	C-17	Q802	H-4
		Q803	H-3
IC701	B-8		
IC702	B-6		
IC703	C-10		
Q301	H-23		
Q302	H-23		
Q303	H-22		
Q304	H-23		
Q305	G-22		
Q306	H-20		
Q307	I-22		
Q308	H-22		
Q309	H-21		
Q310	H-20		







- Note:**
- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
 - All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
 - : nonflammable resistor.
 - : fusible resistor.
 - : signal path.
 - : B+ bus.
 - : B- bus.
 - : adjustment for repair.
 - Voltage variations may be noted due to normal production tolerances.
 - Readings are taken under no-signal conditions with a VOM (50 $\text{k}\Omega/\text{V}$).
 - Switch

Ref. No.	Switch	Position
S1	POWER	OFF
S2	VOLTAGE SELECTOR (AEP, G-AEP, UK, E MODEL)	—
S101	OPERATION	STEREO
S801	METER	OFF
S802	INPUT	FIXID
S803	SPEAKER	A + B

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

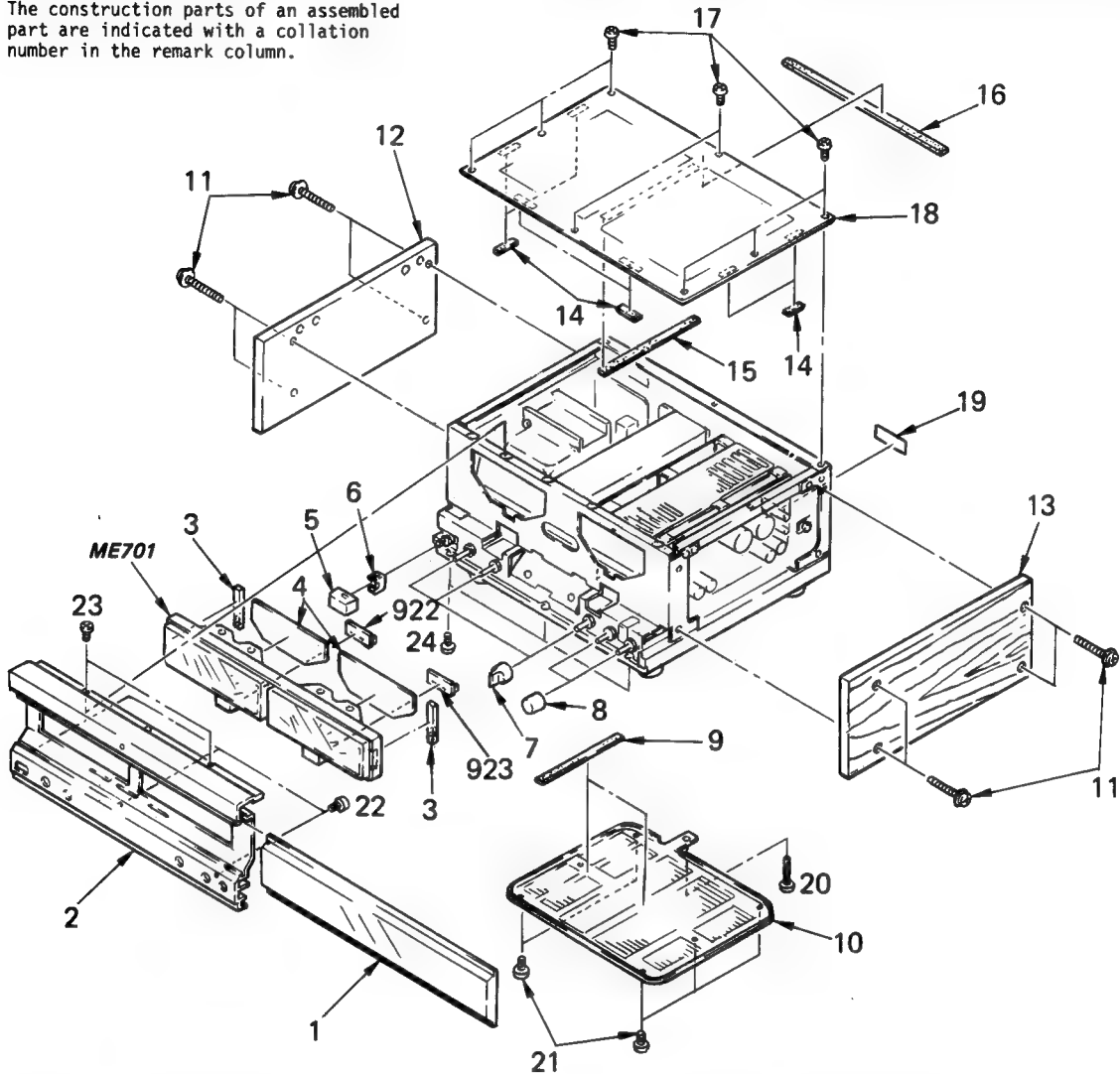
SECTION 4
EXPLODED VIEWS AND PARTS LIST

- NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
 - Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
 - The construction parts of an assembled part are indicated with a collation number in the remark column.

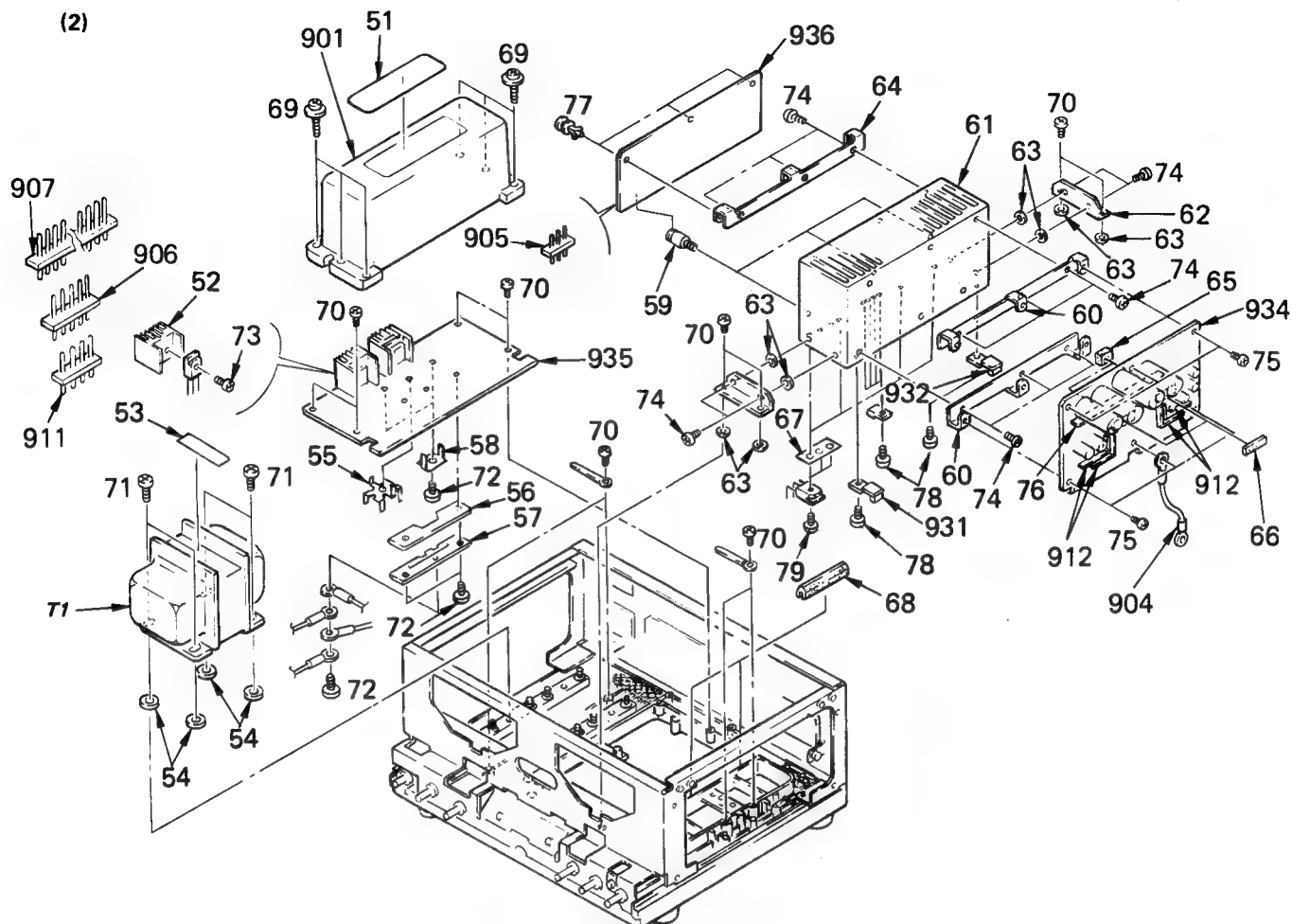
The components identified by shading and mark **Δ** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **Δ** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(1)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	4-921-423-01	WINDOW, FRONT		16	4-921-411-11	CUSHION	
2	X-4922-211-1	PANEL ASSY, FRONT		17	4-921-439-01	SCREW (M3X8), FLAT HEAD	
3	*4-921-411-01	CUSHION		18	4-921-434-01	PLATE, TOP	
4	*4-921-414-01	FILTER		19	*4-921-405-01	(E).....LABEL, MODEL NUMBER (E2/E3)	
5	4-908-856-01	KNOB, SQUARE			*4-921-406-01	(UK).....LABEL, MODEL NUMBER (UK)	
6	*4-864-307-00	RING			*4-921-407-01	(AEP).....LABEL, MODEL NUMBER (AE)	
7	4-916-745-01	KNOB (DIA.21)			*4-921-408-01	(Canadian)....LABEL, MODEL NUMBER (CA)	
8	4-916-746-01	KNOB (DIA.21)			*4-921-409-01	(G-AEP).....LABEL, MODEL NUMBER (AE4)	
9	*4-916-782-21	DAMPER			*4-922-209-01	(US).....LABEL, MODEL NUMBER (U)	
10	*4-921-428-01	PLATE, BOTTOM		20	7-685-153-19	SCREW +P 3X30 TYPE2 SLIT	
11	4-885-979-11	SCREW (4X25)		21	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT	
12	X-4921-401-2	PLATE (LEFT) ASSY, SIDE, ORNAMENTAL		22	7-627-553-58	SCREW, PRECISION +P 2X4.5	
13	X-4921-402-2	PLATE (RIGHT) ASSY, SIDE, ORNAMENTAL		23	7-682-548-09	SCREW +B 3X8	
14	*4-921-410-01	CUSHION		24	7-682-547-09	SCREW +BVTT 3X6 (S)	
15	*4-916-782-41	DAMPER		922		PC BOARD, METER (L)	
				923		PC BOARD, METER (R)	
				ME701	1-520-497-11	METER	



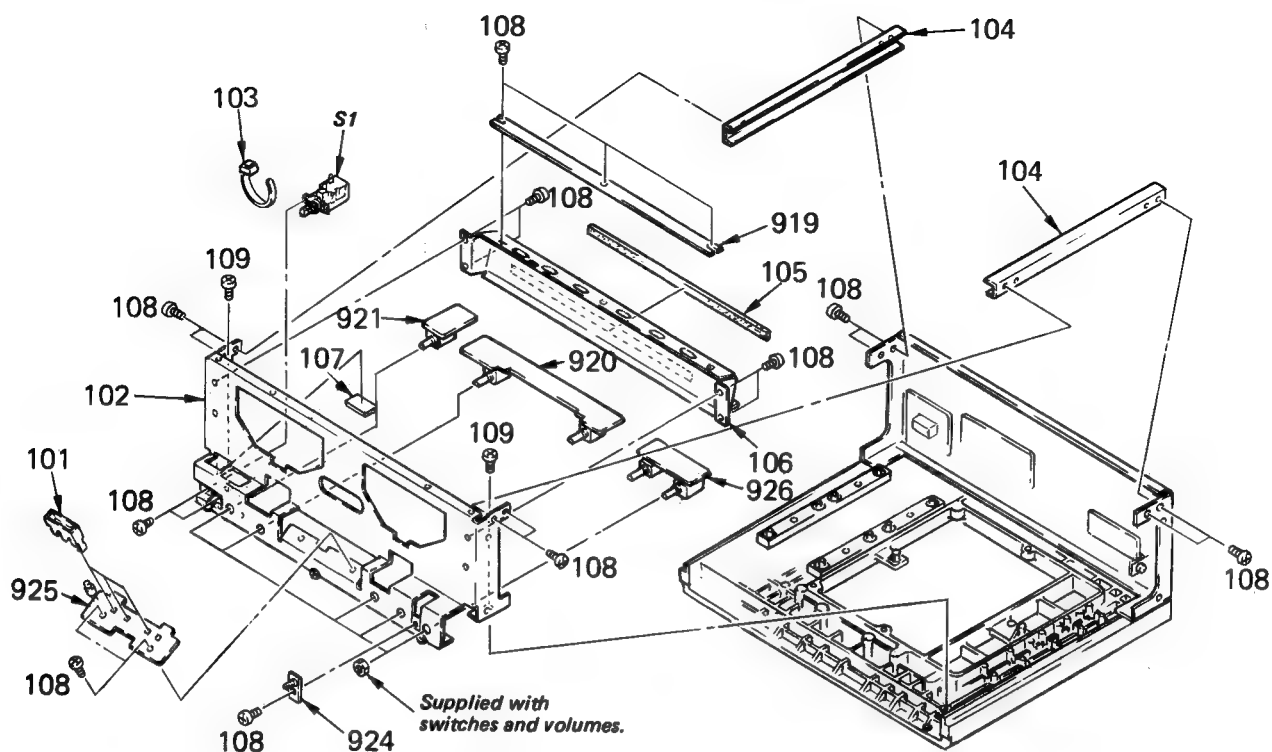
No.	Part No.	Description	Remarks
51	*4-921-412-01	LABEL	
52	*4-921-402-01	HEAT SINK	
53	*4-908-885-01	LABEL, TRANSFORMER	
54	*4-885-984-01	WASHER	
55	*4-916-769-01	PLATE, GROUND, 4P	
56	4-921-438-01	SPACER	
57	*4-921-422-01	BAR, BUS	
58	*4-835-639-00	PLATE, GROUND	
59	*4-921-417-01	RETAINER, PC BOARD	
60	*4-921-424-01	BRACKET, PC BOARD	
61	*4-921-430-01	HEAT SINK	
62	*4-921-418-01	BRACKET, HEAT SINK	
63	*3-555-872-21	SPACER	
64	*4-921-424-11	BRACKET, PC BOARD	
65	4-921-410-51	CUSHION	
66	4-921-411-21	CUSHION	
67	4-921-419-01	SHEET, INSULATING	
68	*4-921-413-01	RUBBER, DAMPING	
69	4-921-437-01	SCREW (M3X20), TAPPING	
70	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT	
71	7-682-664-09	SCREW +PSW 4X14	
72	7-682-561-10	SCREW +B 4X8	
73	7-682-549-09	SCREW +B 3X10	
74	7-685-645-79	SCREW +BVTP 3X6 TYPE2 SLIT	
75	7-682-547-09	SCREW +BVTT 3X6 (S)	

No.	Part No.	Description	Remarks
76	*3-311-617-01	REINFORCEMENT, PCB	
77	4-812-134-00	RIVET NYLON, 3.5	
78	7-682-649-09	SCREW +PSW 3X10	
79	7-682-650-09	SCREW +PSW 3X12	
901	Δ A-4410-570-A	CAPACITOR ASSY, ELECT (C501,503)	
904	*1-559-512-11	CORD (WITH CONNECTOR)	
905	*1-508-809-00	BASE POST (14MM) 2P	
906	*1-508-812-00	BASE POST (14MM) 5P	
907	*1-508-817-00	14MM BASE POST	
911	*1-535-137-00	BASE POST 14MM (10MM PITCH)	
912	*1-560-242-21	BUS BAR 4P	
931	*	PC BOARD, TRANSISTOR (L)	
932	*	PC BOARD, TRANSISTOR (R)	
934	*A-4388-685-A	(US,Canadian).....MOUNTED PCB, MAIN(A)	
	*A-4388-686-A	(AEP,G-AEP,UK,E)...MOUNTED PCB, MAIN(A)	
935	*A-4388-687-A	(US,Canadian).....MOUNTED PCB, MAIN(B)	
	*A-4388-688-A	(AEP,G-AEP,UK,E)...MOUNTED PCB, MAIN(B)	
936	*A-4474-559-A	(US,Canadian).....MOUNTED PCB, PROTECTOR	
	*A-4474-560-A	(AEP,G-AEP,UK,E)...MOUNTED PCB, PROTECTOR	
T1	Δ I-449-011-11	(AEP,G-AEP,UK,E)...TRANSFORMER, POWER	
T1	Δ I-449-012-11	(US).....TRANSFORMER, POWER	
T1	Δ I-449-076-11	(Canadian).....TRANSFORMER, POWER	

The components identified by shading and mark **Δ** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **Δ** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

(3)

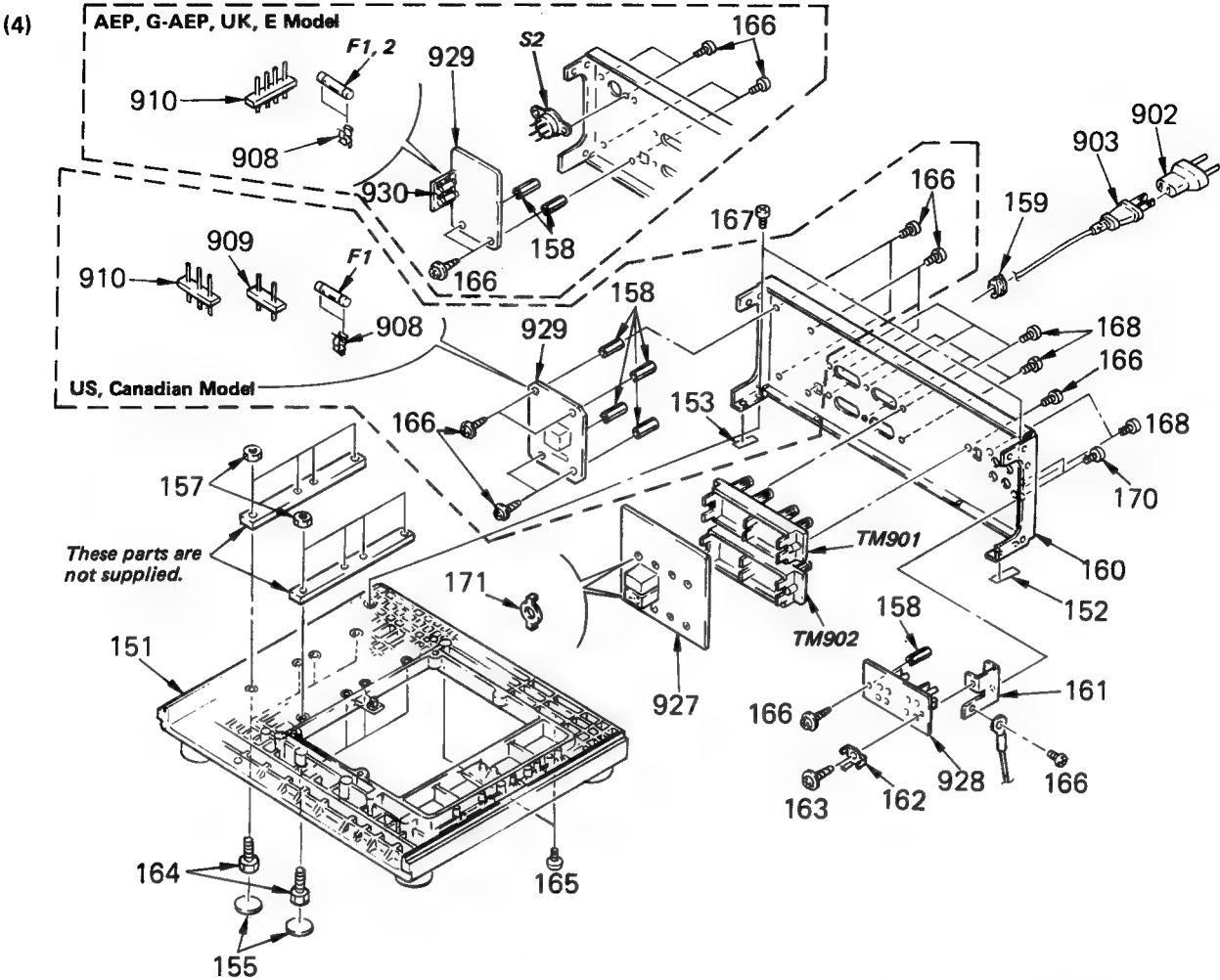


No.	Part No.	Description	Remarks
101	*4-921-425-01	HOUSE, LED	
102	*4-921-435-01	CHASSIS, FRONT	
103	3-655-653-21	BAND (TAITON), BINDING	
104	*4-921-421-01	JOINT	
105	*4-916-782-01	DAMPER	
106	*4-921-432-01	COVER, LAMP	
107	4-921-440-01	SPACER	
108	7-682-547-09	SCREW +BV 3X6, S TIGHT	
109	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT	

No.	Part No.	Description	Remarks
919	*1-623-908-11	PC BOARD, LAMP	
920	*1-623-905-11	PC BOARD, SW (INPUT)	
921	*1-623-906-11	PC BOARD, SW (SP)	
924	*1-623-913-11	PC BOARD, LED (A)	
925	*1-623-903-11	PC BOARD, LED (B)	
926	*1-623-907-11	PC BOARD, VOLUME	
S1	▲1-552-084-00	(E).....SWITCH, PUSHBUTTON (POWER)	
S1	▲1-552-246-00	(US).....SWITCH, PUSHBUTTON (POWER)	
S1	▲1-554-880-11	(Canadian,AEP,G-AEP,UK) ...SWITCH, PUSHBUTTON (POWER)	

The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ▲ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



No.	Part No.	Description	Remarks
151	X-4885-922-1	CHASSIS ASSY, MAIN	
152	4-921-441-01	SPACER (t=0.3)	
153	4-921-441-11	SPACER (t=0.5)	
155	*4-908-892-01	SPACER	
157	4-908-881-01	NUT (M4), FLANGE	
158	*4-876-607-21	COLLAR (E), PLATE, JACK	
159	4-916-783-01	BUSHING, CORD	
160	*4-921-429-01	(US,Canadian).....PANEL, BACK	
	*4-921-429-11	(AEP,G-AEP,UK,E)...PANEL, BACK	
161	*4-921-416-01	BRACKET	
162	*4-843-416-00	PLATE, FIXED, CAP	
163	2-259-121-11	SCREW, TR	
164	7-683-333-07	BOLT, HEXAGON 4X40	
165	7-685-650-79	SCREW +BVTP 3X16 TYPE2 SLIT	
166	7-682-547-09	SCREW +BVTT 3X6 (S)	
167	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT	
168	7-685-646-79	SCREW +BVTP 3X8 TYPE2	
170	7-682-547-09	SCREW +BV 3X6, S TIGHT	
171	*4-843-416-11	PLATE, FIXED, CAP	
902	A.1-526-565-00	(E)....AC PLUG ADAPTOR	

No.	Part No.	Description	Remarks
903	A.1-559-271-11	(AEP,G-AEP,UK)...CODE, POWER	
	A.1-559-297-11	(E).....CODE, POWER	
	A.1-559-479-11	(US,Canadian)...CODE, POWER	
908	1-533-183-11	(AEP,G-AEP,UK,E)...HOLDER, FUSE	
	1-533-185-11	(US,Canadian).....HOLDER, FUSE	
909	*1-535-135-00	BASE POST 14MM (10MM PITCH) 2P	
910	*1-535-136-00	BASE POST 14MM (10MM PITCH) 3P	
928	*1-623-902-11	PC BOARD, INPUT	
929	*1-623-911-11	(US,Canadian).....PC BOARD, AC	
	*1-623-910-11	(AEP,G-AEP,UK,E)...PC BOARD, AC	
930	*1-623-912-11	(AEP,G-AEP,UK,E)...PC BOARD, FUSE	
F1	A.1-532-299-00	(AEP,G-AEP,UK,E)...FUSE, TIME-LAG 5A	
F2	A.1-532-510-00	(US,Canadian).....FUSE, NORMAL 8A	
	A.1-532-299-00	(AEP,G-AEP,UK,E)...FUSE, TIME-LAG 5A	
S2	A.1-526-576-31	(AEP,G-AEP,UK,E).....SELECTOR, POWER VOLTAGE	
TM901	1-537-102-11	TERMINAL BOARD (SP)	
TM902	1-537-102-11	TERMINAL BOARD (SP)	

The components identified by shading and mark A are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque A sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 5

ELECTRICAL PARTS LIST

NOTE:

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable


COILS


• MMH : mH, UH : μH

SEMICONDUCTORS






In each case, U : μ, for example:

 UA....: μA..., UPA....: μPA..., UPC....: μPC,
 UPD....: μPD...


















The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	 A-4410-570-A	CAPACITOR ASSY, ELECT (C501,503)
902	 1-526-565-00	(E).....AC PLUG ADAPTOR
903	 1-559-271-11	(AEP,G-AEP,UK)...CODE, POWER
	 1-559-297-11	(E).....CODE, POWER
	 1-559-479-11	(US,Canadian)...CODE, POWER
904	*1-559-512-11	CORD (WITH CONNECTOR)
905	*1-508-809-00	BASE POST (14MM) 2P
906	*1-508-812-00	BASE POST (14MM) 5P
907	*1-508-817-00	14MM BASE POST
908	1-533-183-11	(AEP,G-AEP,UK,E)...HOLDER, FUSE
	1-533-185-11	(US,Canadian).....HOLDER, FUSE
909	*1-535-135-00	BASE POST 14MM (10MM PITCH) 2P
910	*1-535-136-00	BASE POST 14MM (10MM PITCH) 3P
911	*1-535-137-00	BASE POST 14MM (10MM PITCH)
912	*1-560-242-21	BUS BAR 4P
914	*1-562-249-00	SOCKET, CONNECTOR 4P
915	*1-562-250-00	SOCKET, CONNECTOR 5P
916	*1-562-251-00	SOCKET, CONNECTOR 6P
917	*1-562-327-00	SOCKET, CONNECTOR 3P
918	*1-562-328-00	SOCKET, CONNECTOR 7P
919	*1-623-908-11	PC BOARD, LAMP
920	*1-623-905-11	PC BOARD, SW (INPUT)
921	*1-623-906-11	PC BOARD, SW (SP)
922	*	PC BOARD, METER (L)
923	*	PC BOARD, METER (R)
924	*1-623-913-11	PC BOARD, LED (A)
925	*1-623-903-11	PC BOARD, LED (B)
926	*1-623-907-11	PC BOARD, VOLUME
927	*1-623-909-11	PC BOARD, SPEAKER TM
928	*1-623-902-11	PC BOARD, INPUT
929	*1-623-911-11	(US,Canadian).....PC BOARD, AC
	*1-623-910-11	(AEP,G-AEP,UK,E)...PC BOARD, AC
930	*1-623-912-11	(AEP,G-AEP,UK,E)...PC BOARD, FUSE
931	*	PC BOARD, TRANSISTOR (L)
932	*	PC BOARD, TRANSISTOR (R)
933	*1-623-902-11	PC BOARD, INPUT
934	*A-4388-685-A	(US,Canadian).....MOUNTED PCB, MAIN(A)
	*A-4388-686-A	(AEP,G-AEP,UK,E)...MOUNTED PCB, MAIN(A)
935	*A-4388-687-A	(US,Canadian).....MOUNTED PCB, MAIN(B)
	*A-4388-688-A	(AEP,G-AEP,UK,E)...MOUNTED PCB, MAIN(B)
936	*A-4474-559-A	(US,Canadian).....MOUNTED PCB, PROTECTOR
	*A-4474-560-A	(AEP,G-AEP,UK,E)..MOUNTED PCB, PROTECTOR

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C301	1-107-163-00	MICA	47PF	5%	100V
C302	1-123-380-00	ELECT	1MF	20%	100V
C303	1-107-306-91	MICA	180PF	5%	100V
C304	1-107-048-00	MICA	7PF	0.5PF	100V
C305	1-107-210-00	MICA	22PF	5%	100V
C306	1-124-929-11	ELECT	22MF	20%	100V
C307	 1-123-373-00	ELECT	47MF	20%	63V
C309	1-123-373-00	ELECT	47MF	20%	63V
C310	1-123-373-00	ELECT	47MF	20%	63V
C312	 1-124-503-00	ELECT	470MF	20%	100V
C313	 1-124-503-00	ELECT	470MF	20%	100V
C315	 1-125-488-11	ELECT(BLOCK)	4700MF	20%	80V
C316	 1-125-488-11	ELECT(BLOCK)	4700MF	20%	80V
C318	 1-125-488-11	ELECT(BLOCK)	4700MF	20%	80V
C319	 1-125-488-11	ELECT(BLOCK)	4700MF	20%	80V
C320	1-124-929-11	ELECT	22MF	20%	63V
C351	1-107-163-00	MICA	47PF	5%	100V
C352	1-123-380-00	ELECT	1MF	20%	100V
C353	1-107-306-91	MICA	180PF	5%	100V
C354	1-107-048-00	MICA	7PF	0.5PF	100V
C355	1-107-210-00	MICA	22PF	5%	100V
C356	1-124-929-11	ELECT	22MF	20%	100V
C357	 1-123-373-00	ELECT	47MF	20%	63V
C359	1-123-373-00	ELECT	47MF	20%	63V
C360	1-123-373-00	ELECT	47MF	20%	63V
C362	 1-124-503-00	ELECT	470MF	20%	100V
C363	 1-124-503-00	ELECT	470MF	20%	100V
C370	1-124-929-11	ELECT	22MF	20%	63V
C401	1-107-169-00	MICA	100PF	5%	100V
C402	1-107-169-00	MICA	100PF	5%	100V
C403	 1-124-131-00	ELECT	47MF	20%	100V
C404	 1-124-131-00	ELECT	47MF	20%	100V
C405	1-130-471-00	MYLAR	0.001MF	5%	50V
C451	1-107-169-00	MICA	100PF	5%	100V
C452	1-107-169-00	MICA	100PF	5%	100V
C453	 1-124-131-00	ELECT	47MF	20%	100V
C454	 1-124-131-00	ELECT	47MF	20%	100V
C455	1-130-471-00	MYLAR	0.001MF	5%	50V
C501	 - - - - -	INCLUDED IN 901			
C503	 - - - - -	INCLUDED IN 901			
C505	1-130-801-11	FILM	3.3MF	10%	250V
C506	1-130-955-00	FILM	0.01MF	10%	100V
C507	1-130-955-00	FILM	0.01MF	10%	100V
C508	1-130-955-00	FILM	0.01MF	10%	100V
C510	 1-124-912-11	ELECT	330MF	20%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C511	1-123-875-11	ELECT 10MF 20% 50V
C512	1-130-955-00	FILM 0.01MF 10% 100V
C602	1-161-741-00	(AEP,G-AEP,UK,E) ...CERAMIC 0.001MF 10% 400V
C602	1-161-744-00	(US,Canadian)...CERAMIC 0.01MF 400V
C701	1-124-911-11	ELECT 220MF 20% 50V
C702	1-136-156-00	FILM 0.018MF 5% 50V
C703	1-136-169-00	FILM 0.22MF 5% 50V
C704	1-136-173-00	FILM 0.47MF 5% 50V
C705	1-130-479-00	MYLAR 0.0047MF 5% 50V
C706	1-130-479-00	(US,Canadian)...FILM 0.0047MF 5% 50V
C707	1-123-875-11	ELECT 10MF 20% 50V
C709	1-126-024-11	ELECT 220MF 20% 25V
C710	1-136-157-00	FILM 0.022MF 5% 50V
C711	1-136-157-00	FILM 0.022MF 5% 50V
C712	1-124-478-11	ELECT 100MF 20% 25V
C713	1-136-157-00	(US,Canadian)...FILM 0.022MF 5% 50V
C714	1-124-482-11	ELECT 33MF 20% 25V
C715	1-136-157-00	(US,Canadian)...FILM 0.022MF 5% 50V
C716	1-124-472-11	(US,Canadian)...ELECT 470MF 20% 10V
C717	1-124-122-11	ELECT 100MF 20% 50V
C718	1-136-157-00	(US,Canadian)...FILM 0.022MF 5% 50V
C752	1-136-156-00	FILM 0.018MF 5% 50V
C753	1-136-169-00	FILM 0.22MF 5% 50V
C755	1-130-479-00	MYLAR 0.0047MF 5% 50V
C756	1-130-479-00	(US,Canadian)...FILM 0.0047MF 5% 50V
C757	1-123-875-11	ELECT 10MF 20% 50V
C764	1-124-482-11	ELECT 33MF 20% 25V
C801	1-124-927-11	ELECT 4.7MF 20% 50V
C802	1-130-471-00	MYLAR 0.001MF 5% 50V
C803	1-130-471-00	MYLAR 0.001MF 5% 50V
C804	1-130-471-00	MYLAR 0.001MF 5% 50V
C902	1-130-313-00	FILM 0.047MF 5% 100V
C903	1-130-313-00	FILM 0.047MF 5% 100V
C952	1-130-313-00	FILM 0.047MF 5% 100V
C953	1-130-313-00	FILM 0.047MF 5% 100V
CN101	1-566-880-11	JACK, PIN 4P (FIXED IN/VARIABLE IN)
CNP101	1-564-519-11	PLUG, CONNECTOR 4P
CNP102	1-564-519-31	PLUG, CONNECTOR 4P
CNP103	1-564-518-11	PLUG, CONNECTOR 3P
CNP301	1-564-505-11	PLUG, CONNECTOR 2P
CNP302	1-564-505-21	PLUG, CONNECTOR 2P
CNP303	1-564-506-11	PLUG, CONNECTOR 3P
CNP304	1-564-506-11	PLUG, CONNECTOR 3P
CNP305	1-564-506-11	PLUG, CONNECTOR 3P
CNP306	1-564-506-11	PLUG, CONNECTOR 3P
CNP307	1-564-507-21	PLUG, CONNECTOR 4P
CNP308	1-564-508-11	PLUG, CONNECTOR 5P
CNP501	1-564-509-11	PLUG, CONNECTOR 6P
CNP502	1-564-241-00	PIN, CONNECTOR 4P
CNP601	1-564-505-21	(US,Canadian)...PLUG, CONNECTOR 2P
CNP602	1-564-242-11	(US,Canadian)...PLUG, CONNECTOR 5P
CNP701	1-564-506-11	PLUG, CONNECTOR 3P
CNP702	1-564-507-11	PLUG, CONNECTOR 4P
CNP703	1-564-508-11	PLUG, CONNECTOR 5P
CNP704	1-564-508-11	PLUG, CONNECTOR 5P
CNP705	1-564-508-11	PLUG, CONNECTOR 5P
CNP706	1-564-508-11	PLUG, CONNECTOR 5P
CNP707	1-564-508-11	PLUG, CONNECTOR 5P

ELECTRICAL PARTS

Ref.No.	Part No.	Description
CNP708	1-564-509-11	PLUG, CONNECTOR 6P
CNP709	1-564-505-11	PLUG, CONNECTOR 2P
CNP710	1-564-505-31	PLUG, CONNECTOR 2P
CNP801	1-564-507-21	PLUG, CONNECTOR 4P
CNP802	1-564-506-11	PLUG, CONNECTOR 3P
CNP901	1-564-241-00	PIN, CONNECTOR 4P
D301	8-719-940-76	DIODE 1SS132
D302	8-719-940-76	DIODE 1SS132
D303	8-719-200-77	DIODE 10E2N
D304	8-719-910-68	DIODE HZ6C2L
D305	8-719-910-15	DIODE HZ11B2L
D306	8-719-300-04	DIODE SV-04
D307	8-719-300-04	DIODE SV-04
D308	8-719-200-77	DIODE 10E2N
D309	8-719-303-18	DIODE SEL1210W
D310	8-719-200-77	DIODE 10E2N
D311	8-719-942-32	DIODE HZ3ALL
D312	8-719-942-32	DIODE HZ3ALL
D353	8-719-200-77	DIODE 10E2N
D354	8-719-910-68	DIODE HZ6C2L
D355	8-719-910-15	DIODE HZ11B2L
D356	8-719-300-04	DIODE SV-04
D357	8-719-300-04	DIODE SV-04
D358	8-719-200-77	DIODE 10E2N
D359	8-719-303-18	DIODE SEL1210W
D360	8-719-200-77	DIODE 10E2N
D361	8-719-942-32	DIODE HZ3ALL
D362	8-719-942-32	DIODE HZ3ALL
D501	8-719-304-41	DIODE CTU-32S
D502	8-719-304-42	DIODE CTU-32R
D503	8-719-300-27	DIODE CTU-22S
D504	8-719-300-25	DIODE CTU-22R
D505	8-719-511-40	DIODE S1VB40
D507	8-719-200-77	DIODE 10E2N
D601	8-719-940-76	(US,Canadian)...DIODE 1SS132
D701	8-719-913-62	DIODE HZ36-2L
D702	8-719-940-76	DIODE 1SS132
D703	8-719-940-76	DIODE 1SS132
D704	8-719-940-76	(US,Canadian)...DIODE 1SS132
D705	8-719-940-76	(US,Canadian)...DIODE 1SS132
D706	8-719-940-76	DIODE 1SS132
D707	8-719-940-76	DIODE 1SS132
D754	8-719-940-76	(US,Canadian)...DIODE 1SS132
D755	8-719-940-76	(US,Canadian)...DIODE 1SS132
D756	8-719-940-76	DIODE 1SS132
D757	8-719-940-76	DIODE 1SS132
D801	8-719-940-76	DIODE 1SS132
D802	8-719-304-48	DIODE SEL2513E
D803	8-719-304-48	DIODE SEL2513E
D804	8-719-304-48	DIODE SEL2513E
D805	8-719-302-24	DIODE SEL2213C-D
D806	8-719-302-24	DIODE SEL2213C-D
D807	8-719-301-39	DIODE SEL2210S-D
D808	8-719-304-48	DIODE SEL2513E
D901	8-719-940-76	DIODE 1SS132
D902	8-719-940-76	DIODE 1SS132
F1	1-532-299-00	(AEP,G-AEP,UK,E)...FUSE, TIME-LAG 5A
F1	1-532-510-00	(US,Canadian)...FUSE, NORMAL 8A
F2	1-532-299-00	(AEP,G-AEP,UK,E)...FUSE, TIME-LAG 5A
IC701	8-759-273-18	IC TA7318P
IC702	8-759-111-68	IC UPC1237HA
IC703	8-759-111-68	(US,Canadian)...IC UPC1237HA

The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
L901	*1-422-009-13	COIL, AIR-CORE
L951	*1-422-009-13	COIL, AIR-CORE
ME701	1-520-497-11	METER
PL801	1-518-527-51	LAMP, PILOT (12V,100MA)
PL802	1-518-527-51	LAMP, PILOT (12V,100MA)
PL803	1-518-527-51	LAMP, PILOT (12V,100MA)
PL804	1-518-527-51	LAMP, PILOT (12V,100MA)
PL805	1-518-527-51	LAMP, PILOT (12V,100MA)
PL806	1-518-527-51	LAMP, PILOT (12V,100MA)
△PTH501	1-806-882-11	(US,Canadian)...TERMISTOR, POSITIVE
△PTH502	1-806-882-11	(US,Canadian)...TERMISTOR, POSITIVE
Q301	8-765-640-10	TRANSISTOR 2SK244
Q302	8-729-203-45	TRANSISTOR 2SC3423
Q303	8-729-203-45	TRANSISTOR 2SC3423
Q304	8-729-699-51	TRANSISTOR 2SA955
Q305	8-729-104-18	TRANSISTOR 2SC3514
Q306	8-729-201-56	TRANSISTOR 2SK246GR2
Q307	8-729-201-56	TRANSISTOR 2SK246GR2
Q308	8-729-209-17	TRANSISTOR 2SA1360-0
Q309	8-729-104-91	TRANSISTOR 2SA1383
Q310	8-729-201-56	TRANSISTOR 2SK246GR2
Q311	8-729-104-18	TRANSISTOR 2SC3514
Q312	8-729-209-17	TRANSISTOR 2SA1360-0
Q313	8-729-203-45	TRANSISTOR 2SC3423
Q351	8-765-640-10	TRANSISTOR 2SK244
Q352	8-729-203-45	TRANSISTOR 2SC3423
Q353	8-729-203-45	TRANSISTOR 2SC3423
Q354	8-729-699-51	TRANSISTOR 2SA955
Q355	8-729-104-18	TRANSISTOR 2SC3514
Q356	8-729-201-56	TRANSISTOR 2SK246GR2
Q357	8-729-201-56	TRANSISTOR 2SK246GR2
Q358	8-729-209-17	TRANSISTOR 2SA1360-0
Q359	8-729-104-91	TRANSISTOR 2SA1383
Q360	8-729-201-56	TRANSISTOR 2SK246GR2
Q361	8-729-104-18	TRANSISTOR 2SC3514
Q362	8-729-209-17	TRANSISTOR 2SA1360-0
Q363	8-729-203-45	TRANSISTOR 2SC3423
Q401	△8-729-104-18	TRANSISTOR 2SC3514
Q402	△8-729-104-91	TRANSISTOR 2SA1383
Q403	8-729-208-44	TRANSISTOR 2SC3298A
Q404	8-729-208-38	TRANSISTOR 2SA1306A
Q405	8-729-303-88	TRANSISTOR 2SC3856
Q406	8-729-303-85	TRANSISTOR 2SA1492
Q407	8-729-303-88	TRANSISTOR 2SC3856
Q408	8-729-303-85	TRANSISTOR 2SA1492
Q409	8-729-303-88	TRANSISTOR 2SC3856
Q410	8-729-303-85	TRANSISTOR 2SA1492
Q451	△8-729-104-18	TRANSISTOR 2SC3514
Q452	△8-729-104-91	TRANSISTOR 2SA1383
Q453	△8-729-208-44	TRANSISTOR 2SC3298A
Q454	8-729-208-38	TRANSISTOR 2SA1306A
Q455	8-729-303-88	TRANSISTOR 2SC3856
Q456	8-729-303-85	TRANSISTOR 2SA1492
Q457	8-729-303-88	TRANSISTOR 2SC3856
Q458	8-729-303-85	TRANSISTOR 2SA1492
Q459	8-729-303-88	TRANSISTOR 2SC3856
Q460	8-729-303-85	TRANSISTOR 2SA1492
Q701	8-729-107-25	TRANSISTOR 2SD1585-L

ELECTRICAL PARTS

Ref.No.	Part No.	Description
Q702	8-729-108-05	TRANSISTOR 2SC1841-PA
Q703	8-729-108-14	TRANSISTOR 2SA988-F
Q704	8-729-108-05	(US,Canadian)...TRANSISTOR 2SA1841-PA
Q705	8-729-108-14	(US,Canadian)...TRANSISTOR 2SA988-F
Q706	8-729-107-25	TRANSISTOR 2SD1585-L
Q707	8-729-107-25	TRANSISTOR 2SD1585-L
Q708	8-729-201-56	TRANSISTOR 2SK246GR2
Q752	8-729-108-05	TRANSISTOR 2SC1841-PA
Q753	8-729-108-14	TRANSISTOR 2SA988-F
Q754	8-729-108-05	(US,Canadian)...TRANSISTOR 2SA1841-PA
Q755	8-729-108-14	(US,Canadian)...TRANSISTOR 2SA988-F
Q801	8-729-600-27	TRANSISTOR 2SC634SP
Q802	8-729-600-27	TRANSISTOR 2SC634SP
Q803	8-729-204-83	TRANSISTOR 2SA1048-GR
R101	1-246-545-00	CARBON 1M 1/4W
R151	1-246-545-00	CARBON 1M 1/4W
R301	1-247-713-11	CARBON 1K 1/4W
R302	1-249-497-11	CARBON 33K 1/4W
R303	1-249-723-11	CARBON 120K 1/2W
R304	1-249-556-11	CARBON 1.5K 1/4W
R305	1-249-717-11	CARBON 68K 1/2W
R306	1-247-719-11	CARBON 3.3K 1/4W
R307	1-247-704-11	CARBON 220 1/4W
R308	1-247-704-11	CARBON 220 1/4W
R310	1-249-512-11	CARBON 22 1/4W
R311	1-249-512-11	CARBON 22 1/4W
R312	1-247-721-11	CARBON 4.7K 1/4W
R313	1-249-556-11	CARBON 1.5K 1/4W
R314	1-249-784-11	CARBON 180 1% 1/2W
R315	1-249-824-11	CARBON 8.2K 1% 1/2W
R316	1-212-982-00	FUSIBLE 100 5% 1/2W F
R317	1-249-723-11	CARBON 120K 1/2W
R318	1-249-556-11	CARBON 1.5K 1/4W
R319	1-212-982-00	FUSIBLE 100 5% 1/2W F
R320	1-247-710-11	CARBON 560 5% 1/4W F
R321	1-247-719-11	CARBON 3.3K 1/4W
R322	1-247-710-11	CARBON 560 5% 1/4W F
R323	△1-217-434-00	FUSIBLE 10 5% 1/2W F
R325	△1-217-434-00	FUSIBLE 10 5% 1/2W F
R326	1-214-937-00	CARBON 1M 1/2W
R327	1-249-597-11	CARBON 75K 1/4W
R328	1-247-700-11	CARBON 100 1/4W
R330	1-249-824-11	CARBON 8.2K 1% 1/2W
R351	1-247-713-11	CARBON 1K 1/4W
R352	1-249-497-11	CARBON 33K 1/4W
R353	1-249-723-11	CARBON 120K 1/2W
R354	1-249-556-11	CARBON 1.5K 1/4W
R355	1-249-717-11	CARBON 68K 1/2W
R356	1-247-719-11	CARBON 3.3K 1/4W
R357	1-247-704-11	CARBON 220 1/4W
R358	1-247-704-11	CARBON 220 1/4W
R360	1-249-512-11	CARBON 22 1/4W
R361	1-249-512-11	CARBON 22 1/4W
R362	1-247-721-11	CARBON 4.7K 1/4W
R363	1-249-556-11	CARBON 1.5K 1/4W
R364	1-249-784-11	CARBON 180 1% 1/2W
R365	1-249-824-11	CARBON 8.2K 1% 1/2W
R366	1-212-982-00	FUSIBLE 100 5% 1/2W F
R367	1-249-723-11	CARBON 120K 1/2W

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ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R368	1-249-556-11	CARBON	1.5K		1/4W	
R369	1-212-982-00	FUSIBLE	100	5%	1/2W	F
R370	1-247-710-11	CARBON	560	5%	1/4W	F
R371	1-247-719-11	CARBON	3.3K		1/4W	
R372	1-247-710-11	CARBON	560	5%	1/4W	F
R373	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R375	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R376	1-214-937-00	CARBON	1M		1/2W	
R377	1-249-597-11	CARBON	75K		1/4W	
R378	1-247-700-11	CARBON	100		1/4W	
R401	1-247-752-11	CARBON	1K	5%	1/2W	F
R402	1-212-982-00	FUSIBLE	100	5%	1/2W	F
R403	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R404	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R405	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R406	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R407	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R408	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R409	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R410	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R411	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R411	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R412	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R412	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R413	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R413	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R414	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R414	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R415	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R415	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R416	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R416	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R417	1-247-696-11	CARBON	47	5%	1/4W	F
R419	1-247-696-11	CARBON	47	5%	1/4W	F
R421	1-247-696-11	CARBON	47	5%	1/4W	F
R424	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R425	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R451	1-247-752-11	CARBON	1K	5%	1/2W	F
R452	1-212-982-00	FUSIBLE	100	5%	1/2W	F
R453	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R454	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R455	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R456	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R457	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R458	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R459	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R460	1-217-434-00	FUSIBLE	10	5%	1/2W	F

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R461	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R461	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R462	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R462	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R463	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R463	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R464	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R464	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R465	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R465	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R466	1-217-152-00	(AEP,G-AEP,UK,E)... METAL PLATE 0.33		10%	2W	
R466	1-217-153-00	(US,Canadian)..... METAL PLATE 0.47		10%	2W	
R467	1-247-696-11	CARBON	47	5%	1/4W	F
R469	1-247-696-11	CARBON	47	5%	1/4W	F
R471	1-247-696-11	CARBON	47	5%	1/4W	F
R474	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R475	1-217-434-00	FUSIBLE	10	5%	1/2W	F
R501	1-247-724-11	CARBON	8.2K	5%	1/4W	
R502	1-212-970-00	FUSIBLE	33	5%	1/2W	F
R503	1-249-452-11	CARBON	2.7	5%	1/4W	F
R701	1-247-700-11	CARBON	100	5%	1/4W	
R702	1-247-713-11	CARBON	1K	5%	1/4W	
R703	1-249-417-11	CARBON	1K	5%	1/4W	
R704	1-216-434-11	METAL OXIDE	1.8K	5%	1W	F
R705	1-249-464-11	CARBON	39K	5%	1/4W	
R706	1-246-528-00	CARBON	200K	5%	1/4W	
R707	1-246-533-00	CARBON	330K	5%	1/4W	
R708	1-247-726-11	CARBON	33K	5%	1/4W	
R709	1-247-722-11	(US,Canadian)..... METAL OXIDE 5.6K		5%	1/4W	F
R709	1-247-721-11	(AEP,G-AEP,UK,E)... CARBON 4.7K		5%	1/4W	F
R710	1-247-726-11	CARBON	33K	5%	1/4W	
R711	1-247-722-11	(US,Canadian)..... METAL OXIDE 5.6K		5%	1/4W	F
R711	1-247-721-11	(AEP,G-AEP,UK,E)... CARBON 4.7K		5%	1/4W	F
R712	1-247-704-11	(US,Canadian)...CARBON	220	5%	1/4W	F
R713	1-247-704-11	(US,Canadian)...CARBON	220	5%	1/4W	F
R714	1-247-726-11	(US,Canadian)...CARBON	33K	5%	1/4W	
R715	1-247-726-11	(US,Canadian)...CARBON	33K	5%	1/4W	
R716	1-249-435-11	CARBON	33K	5%	1/4W	
R717	1-249-435-11	(US,Canadian)...CARBON	33K	5%	1/4W	
R718	1-247-726-11	CARBON	33K	5%	1/4W	
R719	1-249-423-11	CARBON	3.3K	5%	1/4W	
R720	1-249-435-11	CARBON	33K	5%	1/4W	

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ELECTRICAL PARTS

Ref.No.	Part No.	Description					
R721	1-247-726-11	(US,Canadian)...CARBON	33K	5%	1/4W		
R722	1-249-423-11	(US,Canadian)...CARBON	3.3K	5%	1/4W		
R723	1-247-726-11	(US,Canadian)...CARBON	33K	5%	1/4W		
R724	1-247-726-11	CARBON	33K	5%	1/4W		
R725	1-247-726-11	(US,Canadian)..... CARBON	33K	5%	1/4W		
R726	1-246-529-00	CARBON	220K	5%	1/4W		
R727	1-249-441-11	(US,Canadian)...CARBON	100K	5%	1/4W		
R728	1-249-460-11	(US,Canadian)...CARBON	15K	5%	1/4W		
R729	1-215-866-11	(US,Canadian)..... METAL OXIDE	330	5%	1W	F	
R731	1-249-460-11	CARBON	15K	5%	1/4W		
R732	1-249-469-11	CARBON	100K	5%	1/4W		
R733	1-247-123-00	CARBON	470	5%	1/4W	F	
R734	1-212-942-00	FUSIBLE	2.2	5%	1/2W	F	
R735	1-212-942-00	FUSIBLE	2.2	5%	1/2W	F	
R736	1-212-942-00	FUSIBLE	2.2	5%	1/2W	F	
R737	1-212-942-00	FUSIBLE	2.2	5%	1/2W	F	
R738	1-249-464-11	CARBON	39K	5%	1/4W		
R752	1-247-713-11	CARBON	1K	5%	1/4W		
R753	1-247-713-11	CARBON	1K	5%	1/4W		
R755	1-249-464-11	CARBON	39K	5%	1/4W		
R756	1-246-528-00	CARBON	200K	5%	1/4W		
R757	1-246-531-00	CARBON	270K	5%	1/4W		
R758	1-247-726-11	CARBON	33K	5%	1/4W		
R759	1-247-722-11	(US,Canadian)...CARBON	5.6K	5%	1/4W	F	
R759	1-247-721-11	(AEP,G-AEP,UK,E)... CARBON	4.7K	5%	1/4W	F	
R760	1-247-726-11	CARBON	33K	5%	1/4W		
R761	1-247-722-11	(US,Canadian)...CARBON	5.6K	5%	1/4W	F	
R761	1-247-721-11	(AEP,G-AEP,UK,E)... CARBON	4.7K	5%	1/4W	F	
R762	1-247-704-11	(US,Canadian)...CARBON	220	5%	1/4W	F	
R763	1-247-704-11	(US,Canadian)...CARBON	220	5%	1/4W	F	
R764	1-247-726-11	(US,Canadian)...CARBON	33K	5%	1/4W		
R765	1-247-726-11	(US,Canadian)...CARBON	33K	5%	1/4W		
R766	1-247-726-11	CARBON	33K	5%	1/4W		
R767	1-247-726-11	(US,Canadian)...CARBON	33K	5%	1/4W		
R768	1-247-726-11	CARBON	33K	5%	1/4W		
R769	1-247-719-11	CARBON	3.3K	5%	1/4W		
R770	1-249-435-11	CARBON	33K	5%	1/4W		
R771	1-249-435-11	(US,Canadian)...CARBON	33K	5%	1/4W		
R772	1-247-719-11	(US,Canadian)...CARBON	3.3K	5%	1/4W		
R773	1-247-726-11	(US,Canadian)...CARBON	33K	5%	1/4W		
R783	1-247-123-00	CARBON	470	5%	1/4W	F	
R788	1-249-464-11	CARBON	39K	5%	1/4W		
R801	1-247-745-11	CARBON	330	5%	1/2W	F	
R802	1-216-434-11	METAL OXIDE	1.8K	5%	1W	F	
R805	1-216-434-11	METAL OXIDE	1.8K	5%	1W	F	
R806	1-216-436-00	METAL OXIDE	3.9K	5%	1W	F	
R808	1-249-465-11	CARBON	47K	5%	1/4W		
R809	1-247-725-11	CARBON	10K	5%	1/4W		
R810	1-247-721-11	CARBON	4.7K	5%	1/4W		

ELECTRICAL PARTS

Ref.No.	Part No.	Description					
R811	1-216-433-00	METAL OXIDE	1.2K	5%	1W	F	
R812	1-215-868-00	METAL OXIDE	680	5%	1W	F	
R813	1-215-868-00	METAL OXIDE	680	5%	1W	F	
R814	1-216-433-00	METAL OXIDE	1.2K	5%	1W	F	
R815	1-247-725-11	CARBON	10K	5%	1/4W		
R901	1-247-727-11	CARBON	10	5%	1/2W		
R902	1-216-420-11	METAL OXIDE	8.2	5%	5W	F	
R951	1-247-727-11	CARBON	10	5%	1/2W		
R952	1-216-420-11	METAL OXIDE	8.2	5%	5W	F	
RT302	1-224-248-XX	RES, ADJ, SOLID	470				
RT352	1-224-248-XX	RES, ADJ, SOLID	470				
RT401	1-224-550-21	RES, ADJ, SOLID	220				
RT451	1-224-550-21	RES, ADJ, SOLID	220				
RT701	1-230-720-11	RES, ADJ, CARBON	4.7K				
RT751	1-230-720-11	RES, ADJ, CARBON	4.7K				
RV201	1-237-849-11	RES, VAR, CARBON	20K				(ATTENUATOR/L)
RV251	1-237-849-11	RES, VAR, CARBON	20K				(ATTENUATOR/R)
RY301	1-515-614-11	RELAY					
RY302	1-515-614-11	RELAY					
RY601	1-515-675-11	(US,Canadian)...RELAY					
RY602	1-515-675-11	(US,Canadian)...RELAY					
RY701	1-515-614-11	RELAY					
RY801	1-515-614-11	RELAY					
RY901	1-515-676-11	RELAY					
RY902	1-515-676-11	RELAY					
S1	1-552-084-00	(E)...SWITCH, PUSHBUTTON (POWER)					
S1	1-552-246-00	(US)...SWITCH, PUSHBUTTON (POWER)					
S1	1-554-880-11	(Canadian,AEP,G-AEP,UK) ...SWITCH, PUSHBUTTON (POWER)					
S2	1-526-576-31	(AEP,G-AEP,UK,E) ...SELECTOR, POWER VOLTAGE					
S101	1-516-785-XX	SLIDE SWITCH (OPERATION)					
S801	1-571-232-11	SWITCH, ROTARY SLIDE (METER)					
S802	1-571-233-11	SWITCH, ROTARY SLIDE (INPUT)					
S803	1-571-231-11	SWITCH, ROTARY SLIDE (SPEAKER)					
T1	1-449-011-11	(AEP,G-AEP,UK,E)...TRANSFORMER, POWER					
T1	1-449-012-11	(US).....TRANSFORMER, POWER					
T1	1-449-076-11	(Canadian).....TRANSFORMER, POWER					
TM901	1-537-102-11	TERMINAL BOARD (SP)					
TM902	1-537-102-11	TERMINAL BOARD (SP)					

ACCESSORY & PACKING MATERIAL

Part No.	Description
3-701-630-00	BAG, POLYETHYLENE
3-703-450-01	(US)...INSTRUCTION, CAUTION
3-769-376-11	MANUAL, INSTRUCTION
4-915-880-01	SHEET, PROTECTION
4-921-403-01	INDIVIDUAL CARTON
4-921-404-01	CUSHION

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Troubleshooting guide

Before going through the check list below, first refer back to the connection and operating procedures. Should any problem persist after you have made these checks, consult your nearest Sony dealer.

Trouble	Cause	Remedy
No audio	Faulty connection	• Check the connections.
	Faulty setting	• Check the setting of the SPEAKERS selector. • Check the setting of the INPUT selector. • Check the setting of the ATTENUATORS if the VARIABLE input jacks are used.
Monaural sound is heard even though a stereo program is played.	Faulty setting of the OPERATION selector	• Set the OPERATION selector correctly. See page 6.